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ABSTRACT

An activity Preference Questionnaire was administered to both a group taking an experimental program in education and a group taking the regular program to measure the frequency and variety of field experience in which the students engaged. Results and correlations of results were plotted to highlight the students' interests. The result indicated a need for independent assessments of student activities as opposed to self-report data and a teacher written report. (Copies of tables are included.) (JA)

FIELD ACTIVITIES SELECTED BY PRESERVICE TEACHERS IN TRADITIONAL AND EXPERIENTIAL PROGRAMS

Henry P. Cole and Louise S. Musser
University of Kentucky

Presented at
the Annual Meeting
of the American Educational Research Association
on February 28, 1973
in New Orleans, Louisiana

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in collecting and processing the data,
and Shirley Lynn Marcoionni
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The Regular Program:

The first two courses in the teacher education program at the University of Kentucky are "Human Development and the Curriculum" and "Education in the American Culture". In each of these courses there are approximately 12 - 15 sections with 25 - 40 students in a section each semester. Several different instructors are involved with each of the courses.

"Human Development and the Curriculum" is usually the first course taken. A common content outline has been developed for the course which includes theoretic and empirical knowledge about human development and the psychology of human learning, as well as the techniques and procedures by which application of this knowledge leads to effective teaching, classroom management, the design of objectives and learning activities, the assessment of student readiness, aptitude and achievement, and decision about matching instructional materials and procedures to pupil characteristics and needs. Much of the outlined material is considered optional for the instructor to cover in class and of course there are many differences in the way individual instructors approach the topics. However, specific instructional objectives are keyed to the common content outline and test questions are derived from the objectives. All students are then required to take tests covering all the instructional objectives. Beginning in the Fall of 1972, students in this course have been required to participate in a field experience a minimum of 2 hours a week for 6 weeks. Prior to this time, many

students did participate in the 6 week field experience, but it was possible to substitute other projects or activities for the field work.

The goal in the second course in the teacher education program, "Education in the American Culture", is to produce a person who is a student of education in the sense that he studies education as an area of inquiry, critically, analytically, and knowledgeably. To be able to do this, the student needs some basic information about the history and philosophy of education as well as relevant information from sociology, anthropology, and psychology. Questions such as the following are considered: What is the purpose of education? What is the nature of the school as an institution? What are the social and philosophic dimensions of the student? What is thinking? What is knowledge? It is questions such as these that provide the common theme for all sections of this course. Thus individual instructors are left free to develop their own approaches to teaching the course and to use any of the traditional disciplines to consider these questions. Field work is usually required in each section, but the amount required and the credit it receives vary. Much of the field experience for this course takes place with organizations and programs outside the public school system, e.g. day care centers, the big brother program, Head Start, Sesame Street.

The Experimental Program:

In the fall of 1971 one instructor from the Human Development and the Curriculum course (human development course) and one from the Education in the American Culture course (cultural foundations course) decided to combine their courses, creating an experientially based full year program where the students spent at least 4 hours each week as student aides in a public school. All students were

assigned to one school where instructors visited teachers, students, and principal. The content of both courses was approached through a problem-centered design. As the students became involved in their work in the school, they encountered interesting situations or problems which then required reference to concepts and principles from the content of both courses. Seminars were held at the University to discuss these problems and apply relevant content material. Students contracted individually with the instructors to read certain materials and write position papers on more controversial issues.

This experimental program was expanded in the fall of 1972 to include 3 different sections and instructors, 3 each from the human development course and the cultural foundations course. Each group of students worked with 2 instructors and were assigned to 1 school. Thus 3 separate schools were involved in the program.

Construction of the Measurement Scales:

In the interest of further developing both the regular and experimental programs, as well as in describing the effects of the 2 programs, an instrument called the Activity Preference Questionnaire (APQ) was constructed to measure the frequency and variety of field experience in which students engaged. Portions of the instrument were also designed to assess how well the students in the experimental and regular sections liked their own program or the opposite program. Still other items were designed to serve as measures of what students perceived to be the most valuable portions of course work in preparing them to become teachers. Each of the 11 scales is described in Table 1.

The scales of the APQ were constructed, in part, by interviewing 3 students

TABLE 1

DESCRIPTIONS OF THE APQ SCALE

Number	Name	Abbreviated Name	Scale Range	Description
1	Commitment	CM	1 - 5	An average composite of 3 items which measure the average length of time per visit, the number of visits per week and the absolute number of visits to the field assignment by the student.
2	Instructional Activity	IA	1 - 5	An average composite of 12 items which measure the frequency of the student's direct involvement in a variety of actual teaching activities requiring contact with children.
3	Breadth-Depth of Involvement	BD	1 - 5	An average composite of 13 items which measure the breadth and frequency of the student's involvement in activities such as attending PTA meetings, school board meetings, visiting, observing and talking with other teachers, seeking out, meeting, talking with a variety of people in the school and school community and seeking out and examining instructional materials, special programs, etc.
4	Application of Theoretic Knowledge	ATK	1 - 5	An average composite of 9 items designed to measure the frequency and degree to which the student attempts to use the theories he encounters in college classrooms and readings in an interpretative and applicative way in practical field situations.
5	Routine Tasks	RT	1 - 5	An average composite of 7 items which indicates the degree to which a student was a relatively passive observer or was simply involved in "low level" clerical-maintenance tasks such as washing black boards, general supervision of playground activities, straightening up the room, etc.

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7	Percent Time Preparing for Field Work	PFW	1 - 5	A single item which asks students to report the percentage of total class preparation time they expended in preparing for field work. The categories were 1 = 0-10%, 2 = 11-30%, 3 = 31-50%, 4 = 51-70%, 5 = 71-90%.
8	Preference For Opposite Section	POS	1 - 5	A single item which indicates liking of the program he was in by asking him if he would have preferred to be enrolled in the opposite section (e.g. experimental or regular) as was the case for the individual. This item was reverse scaled.
9	Recommend Expansion Experimental Program	REEP	1 - 5	A single item which indicates perceived value of the experimental program by asking all students (E groups and R groups) if they thought the experimental program should be expanded.
10	Recommend Experimental Program to Friends	REPF	1 - 5	A single item which indicates perceived value of the experimental program by asking all students (E groups and R groups) if they would recommend the experimental program to friends.
11	Recommend Regular Program to Friends	RRPF	1 - 5	A single item which indicates perceived value of the regular program by asking all students (E groups and R groups) if they would recommend the regular program to friends.

engaged in field work in the first year experimental program. These students were judged as outstanding by their college instructors and the teachers in the public school where they worked. The students were asked to describe the various activities associated with their field experiences. Only a few of the total 65 items on the APQ were constructed from the responses of these 3 students. Daily logs of field experience activities kept by students in 2 regular human development classes, as well as the APQ constructor's earlier experience with preservice and inservice field based teacher education programs, contributed many additional items. After completing the APQ instrument, and before scoring results from any groups, clusters of items were arranged into 11 scoring scales representing logical dimensions of field activity and preferences for certain types of experiences. No individual APQ item contributed to more than 1 dimension. All dimensions are logical factors hypothesized as basic variables important to the study of differences between experimental and regular programs.

Methodology and Design:

Two studies were conducted. Table 2 illustrates the design of the 2 studies. The first study was done on students who had completed the two-course sequence of human development and cultural foundations. This group consisted of 1 experimental section designated E_1 and several regular sections collectively designated R_1. Students in the experimental section (E_1) had completed 2 full semesters of the experimental field based, problem-centered, human development and cultural foundations course prior to administration of the APQ instrument. Students in the regular group (R_1) had completed 1 semester of the standard human development course followed by 1 semester of the standard cultural foundations course.

TABLE 2

DESIGN OF TWO STUDIES COMPARING EXPERIMENTAL VS. REGULAR PROGRAMS ON APQ VARIABLES

Study	Groups	n	Amount of Treatment	Null hypotheses
I E_1 - R_1	E_1	33	2 Semesters Experimental Program	$\mu_{E_1} - \mu_{R_1} = 0$ for all eleven variables in Table I*
	R_1	86	2 Semesters Regular Program	
II E_2 - R_2	E_2	83	1 Semester Experimental Program	$\mu_{E_2} - \mu_{R_2} = 0$ for all eleven variables in Table I*
	R_2	99	1 Semester Regular Program	

* Scores on variables number 8 and 11 were hypothesized as being of greater magnitude for R groups than for E groups. Scores on all other variables in Table 1 were hypothesized as being greater for E groups than for R groups.

The purpose of the study was to compare the E_1 and R_1 groups in terms of their differences in field activities and their preferences for ways to learn about becoming a teacher. The second study was nearly identical to the first except that it was performed on a second sample of students enrolled in experimental and regular sections in a subsequent year. Also, the second groups of experimental (E_2) and regular (R_2) subjects had completed only 1 semester of the different programs at the time the APQ was administered. E_2 subjects had completed only 1 semester of the experimental, field based, combined human development and cultural foundations program. R_2 subjects had completed only the first course (human development) in the traditional sequence. Still another difference was that in the second study the experimental program was in its second year and had been expanded to 3 class sections with 6 instructors, 3 each from the human development and the cultural foundations courses. One final difference between the first study and the second study was that the first year E_1 group consisted exclusively of elementary education majors, while the second study E_2 group consisted of 2 elementary sections and 1 secondary section. Both the R_1 group and the R_2 group consisted of both secondary and elementary education majors in a ratio of about 2:1. The purpose of the second study was also to compare the differences between experimental (E_2) subjects and regular (R_2) subjects in regard to differences in amounts and types of field activities and preferences for ways to learn about becoming a teacher.

The same APQ instrument was used in both studies. Frequencies of individual activities were reported on a 1 to 5 scale from "Never performed" to "Routinely performed". The instrument was scored by summing individual item responses for each treatment group across the dimensions reported in Table 1. No item

contributed to more than 1 subscale. No total score was produced for the instrument. Since the instrument is a self report device, differences in scores between groups can be strictly interpreted as what the students in the various groups think they should be doing in a field setting designed to enhance apprehension and use of theoretic knowledge, and what types of learning situations they value most (e.g. experiential field based, or campus classroom activities). It is also likely that students do actually engage in the frequency and variety of activities at the same level they report. Later studies are planned to determine the accuracy of the student responses to the various categories of items.

Because of the nature of the experimental program it was hypothesized that the scores from the experimental groups in both studies would exceed the values on all APQ dimensions reported in Table 1 except dimensions 8 and 11 which were reverse scaled. The null hypotheses for these eleven dimensions are reported in Table 2.

Results:

Statistical tests of significance were carried out for each null hypothesis stated in Table 2. The results of these significance tests are reported in Tables 3 and 4. Multivariate analyses of variances on both data sets showed that students in the experimental and regular programs differed significantly from one another across all eleven variables collectively. This was true for both the first year sample and second year sample. In addition univariate F ratios showed that groups E_1 and R_1 differed significantly on all eleven variables in the directions previously hypothesized (See Table 2). With the exception of APQ variable REEP, this was also true for the E_2 and R_2 samples.

TABLE 3

COMPARISON OF EXPERIMENTAL (E_1) VERSUS REGULAR (R_1) GROUPS ON APQ VARIABLES

No.	Scale (Index)	Means		Standard Deviations		Univariate* F Ratio	Significance Level p <
		E_1	R_1	E_1	R_1		
1	CM	3.76	2.25	.80	.98	40.06	.0001
2	IA	3.15	2.11	.75	.98	29.88	.0001
3	BD	2.60	1.78	.67	.84	25.35	.0001
4	ATK	3.48	2.33	.94	1.06	29.58	.0001
5	RT	3.60	2.76	.86	1.12	15.10	.0002
6	UMS	2.48	1.21	1.25	.98	34.27	.0001
7	PFW	4.00	1.90	1.27	1.32	61.78	.0001
8	POS	1.33	2.90	1.05	1.66	25.27	.0001
9	REEP	4.06	2.72	1.64	1.99	11.89	.0008
10	REPF	4.45	2.29	1.33	1.92	35.31	.0001
11	RRPF	1.70	2.64	1.36	1.58	9.15	.0031

* A multivariate analysis of variance was carried out for all eleven variables prior to the univariate analysis. The multivariate F ratio for a test of equality of E and R across all eleven variables was calculated to be 16.59 with 11 and 107 dif. ($p < .0001$).

TABLE 4

COMPARISON OF EXPERIMENTAL (E_2) VERSUS REGULAR (R_2) GROUPS ON APQ VARIABLES

	Scale (Index)	Means		Standard Deviations		Univariate* F Ratio	Significance Level p <
		E_2	R_2	E_2	R_2		
1	CM	3.32	1.99	.64	.77	156.57	.0001
2	IA	2.87	1.92	.85	1.00	46.38	.0001
3	BD	1.94	1.64	.53	.80	8.28	.0045
4	ATK	2.98	2.19	.84	.99	32.94	.0001
5	RT	3.35	2.75	.71	1.12	18.04	.0001
6	UMS	1.65	1.13	.87	.91	15.20	.0002
7	PFW	4.10	2.42	1.12	1.38	78.51	.0001
8	POS	1.30	2.62	.98	1.59	42.72	.0001
9	REEP	3.65	3.27	1.86	1.60	2.17	.1424
10	REPR	3.92	3.30	1.68	1.33	7.52	.0067
11	RRPF	2.15	2.94	1.53	1.19	14.97	.0002

* A multivariate analysis of variance was carried out for all eleven variables prior to the univariate analysis. The multivariate F ratio for a test of equality of E and R across all eleven variables was calculated to be 34.75 with 11 and 170 d.f. ($p < .0001$).

Relationship between APQ Indices and Achievement:

Achievement test data was available only for the Fall 1972 regular sections (R_2). The experimental sections did not take traditional achievement tests and there was no good achievement test data for the R_1 sections.

There were two achievement tests given to the R_2 sections - a mid-term and a final. Each item on these multiple choice tests was keyed to a performance objective and the items had previously been item analyzed. The Kuder Richardson Formula 20 Reliabilities are 0.805 for the mid-term and 0.883 for the final.

It was hypothesized that high achievement is positively correlated with indices of involvement in field work, especially Commitment (CM), Instructional Activity (IA), Breadth - Depth of Involvement (BD), Application of Theoretic Knowledge (ATK), Routine Tasks (RT), Use of Methods Specialists (UMS), and Percent Time Preparing for Field Work (PFW). The correlations of the achievement tests with these selected APQ variables for the R_2 group are reported in Table 5. There was a significant negative correlation between high achievement on the mid-term and a high instructional activity score ($p < .01$). Similarly, high achievement on the final was significantly correlated in a negative direction with high instructional activity ($p < .05$). There were no other significant correlations between the achievement tests and the other selected APQ variables.

Relationship Between Field Experience Indices and Selected Personality Variables:

Scores on the Omnibus Personality Inventory (Heist, Yonge, McConnell and Webster, 1968) were available for some members of the 1972 Fall Samples E_2 and R_2 groups. Since the inventory is not administered to transfer students, and there are many students in these programs who are transfers, Omnibus Personality Inventory (OPI) data was missing for many students. Also, since the student identification numbers

needed to retrieve OPI information from the University records were incomplete for the E_1 and R_1 groups, no personality data was available for these samples.

It was thought that individual differences between students in their field experiences might be related to their personality characteristics as measured by certain OPI part scores. Therefore, the correlations reported are between the E_2 and R_2 samples combined on the APQ indices and selected OPI subscales.

The OPI subscales selected for study and their descriptions follow:

1) Thinking Introversion (TI) - high scorers prefer academic activities involving the manipulation of a broad range of ideas, and their thinking tends to be less controlled by commonly held conceptions; 2) Theoretical Orientation (TO) - high scorers like to engage in theoretical problems and use the scientific method in problem solving; 3) Complexity (CO) - high scorers are flexible and tolerant of diversity and ambiguity; 4) Autonomy (AU) - high scorers tend to be independent themselves and respect differing viewpoints held by others; 5) Altruism (AM) - high scoring persons are concerned about the welfare of others and exhibit trust and ethical attitudes in their interpersonal relations; and 6) Practical Outlook (PO) - the person scoring high tends to value practical activities, material goods and concrete achievements.

Correlations between these selected OPI subscales and APQ indices are reported in Table 6. The APQ index, Commitment is significantly correlated ($p < .01$) with Theoretical Introversion and Theoretical Orientation. Instructional Activity is correlated with Complexity ($p < .01$) and Altruism ($p < .05$). The Application of Theoretical Knowledge is significantly correlated with Theoretical Introversion and Altruism ($p < .05$). The Use of Methods Specialists was found to be negatively correlated with Autonomy ($p < .05$). Both Commitment ($p < .05$) and Instructional

TABLE 5

CORRELATION MATRIX OF ACHIEVEMENT TEST WITH SELECTED APQ VARIABLES FOR R_2 GROUPS

Tests	APQ Indices						
	CM	IA	BD	ATK	RT	UMS	PFW
Mid-term	.10	- 28**	-.12	.01	-.03	-.18	-.02
Final	-.14	-.23*	-.10	.05	.00	-.17	-.16

** significant at the .01 level
* significant at the .05 level

TABLE 6

CORRELATION MATRIX OF SELECTED PERSONALITY VARIABLES WITH SELECTED APQ VARIABLES FOR E_2 AND R_2 GROUPS MIXED

OPI Scales	APQ Indices						
	CM	IA	BD	ATK	RT	UMS	PFW
TI	.26**	.16	-.04	.20*	.09	.14	.12
TO	.27**	.13	-.05	.11	.08	.12	.08
CO	.19	.28**	-.04	.10	.01	-.07	.17
AU	.15	.09	-.08	-.01	.00	-.23*	.09
AM	.20	.20*	-.06	.21*	.14	-.03	.07
PO	-.26*	-.27	.00	-.17	-.08	.07	-.07

** significant at the .01 level
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Activity ($p < .01$) were negatively correlated with Practical Outlook. The relationships between the APQ indices and the two achievement measures are shown in Table 5. The relationships between the APQ variables and the six OPI subscales are shown in Table 6.

Conclusions:

It should be noted that even the correlations which are significant between the OPI subscales and the APQ indices and the achievement tests and the APQ variables account for only a very small portion of the total variance. None of the correlations are impressive and even the significant ones should be interpreted with caution.

The significant negative correlations between high achievement on the mid-term and final exams and high instructional activity scores were contrary to the hypothesis of a positive relationship between these variables. This may indicate that students who became very involved in instructional activity in the field experience were not as concerned about University class achievement, while those who were high achievers in their University classes tended to be less interested in the field experience instructional activities. The negative correlation between students scoring high on the OPI Practical Outlook scale and those scoring high on Commitment and Instructional Activity on the APQ also appears to substantiate the idea that those who are interested in immediate concrete achievements would be less interested in the immediate rewards of receiving a good grade in their University class.

The results of this study strongly indicated a need for an independent assessment of the students' activities. Self report data seems to be insufficient and a teacher's report on an independent scale appears necessary. Since teachers often tend to rate student aides very favorable reports on such scales, as the aides provide them much needed assistance, perhaps an adjective check list type of report

would be desirable. The development of an independent criterion measure, especially to measure the degree to which theoretic knowledge is applied, would also be desirable.

REFERENCE

Heist, P., Yonge, G., McConnell, T.R., Webster, H. Omnibus Personality Inventory: Manual. The Psychological Corporation, New York, 1968.

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engaged in field work in the first year experimental program. These students were judged as outstanding by their college instructors and the teachers in the public school where they worked. The students were asked to describe the various activities associated with their field experiences. Only a few of the total 65 items on the APQ were constructed from the responses of these 3 students. Daily logs of field experience activities kept by students in 2 regular human development classes, as well as the APQ constructor's earlier experience with preservice and inservice field based teacher education programs, contributed many additional items. After completing the APQ instrument, and before scoring results from any groups, clusters of items were arranged into 11 scoring scales representing logical dimensions of field activity and preferences for certain types of experiences. No individual APQ item contributed to more than 1 dimension. All dimensions are logical factors hypothesized as basic variables important to the study of differences between experimental and regular programs.

Methodology and Design:

Two studies were conducted. Table 2 illustrates the design of the 2 studies. The first study was done on students who had completed the two-course sequence of human development and cultural foundations. This group consisted of 1 experimental section designated E_1 and several regular sections collectively designated R_1. Students in the experimental section (E_1) had completed 2 full semesters of the experimental field based, problem-centered, human development and cultural foundations course prior to administration of the APQ instrument. Students in the regular group (R_1) had completed 1 semester of the standard human development course followed by 1 semester of the standard cultural foundations course.

TABLE 2

DESIGN OF TWO STUDIES COMPARING EXPERIMENTAL VS. REGULAR PROGRAMS ON APQ VARIABLES

Study	Groups	n	Amount of Treatment	Null hypotheses
I E_1 - R_1	E_1	33	2 Semesters Experimental Program	$\mu_{E_1} - \mu_{R_1} = 0$ for all eleven variables in Table I*
	R_1	86	2 Semesters Regular Program	
II E_2 - R_2	E_2	83	1 Semester Experimental Program	$\mu_{E_2} - \mu_{R_2} = 0$ for all eleven variables in Table I*
	R_2	99	1 Semester Regular Program	

* Scores on variables number 8 and 11 were hypothesized as being of greater magnitude for R groups than for E groups. Scores on all other variables in Table 1 were hypothesized as being greater for E groups than for R groups.

The purpose of the study was to compare the E_1 and R_1 groups in terms of their differences in field activities and their preferences for ways to learn about becoming a teacher. The second study was nearly identical to the first except that it was performed on a second sample of students enrolled in experimental and regular sections in a subsequent year. Also, the second groups of experimental (E_2) and regular (R_2) subjects had completed only 1 semester of the different programs at the time the APQ was administered. E_2 subjects had completed only 1 semester of the experimental, field based, combined human development and cultural foundations program. R_2 subjects had completed only the first course (human development) in the traditional sequence. Still another difference was that in the second study the experimental program was in its second year and had been expanded to 3 class sections with 6 instructors, 3 each from the human development and the cultural foundations courses. One final difference between the first study and the second study was that the first year E_1 group consisted exclusively of elementary education majors, while the second study E_2 group consisted of 2 elementary sections and 1 secondary section. Both the R_1 group and the R_2 group consisted of both secondary and elementary education majors in a ratio of about 2:1. The purpose of the second study was also to compare the differences between experimental (E_2) subjects and regular (R_2) subjects in regard to differences in amounts and types of field activities and preferences for ways to learn about becoming a teacher.

The same APQ instrument was used in both studies. Frequencies of individual activities were reported on a 1 to 5 scale from "Never performed" to "Routinely performed". The instrument was scored by summing individual item responses for each treatment group across the dimensions reported in Table 1. No item

contributed to more than 1 subscale. No total score was produced for the instrument. Since the instrument is a self report device, differences in scores between groups can be strictly interpreted as what the students in the various groups think they should be doing in a field setting designed to enhance apprehension and use of theoretic knowledge, and what types of learning situations they value most (e.g. experiential field based, or campus classroom activities). It is also likely that students do actually engage in the frequency and variety of activities at the same level they report. Later studies are planned to determine the accuracy of the student responses to the various categories of items.

Because of the nature of the experimental program it was hypothesized that the scores from the experimental groups in both studies would exceed the values on all APQ dimensions reported in Table 1 except dimensions 8 and 11 which were reverse scaled. The null hypotheses for these eleven dimensions are reported in Table 2.

Results:

Statistical tests of significance were carried out for each null hypothesis stated in Table 2. The results of these significance tests are reported in Tables 3 and 4. Multivariate analyses of variances on both data sets showed that students in the experimental and regular programs differed significantly from one another across all eleven variables collectively. This was true for both the first year sample and second year sample. In addition univariate F ratios showed that groups E_1 and R_1 differed significantly on all eleven variables in the directions previously hypothesized (See Table 2). With the exception of APQ variable REEP, this was also true for the E_2 and R_2 samples.

TABLE 3

COMPARISON OF EXPERIMENTAL (E_1) VERSUS REGULAR (R_1) GROUPS ON APQ VARIABLES

No.	Scale (Index)	Means		Standard Deviations		Univariate* F Ratio	Significance Level p <
		E_1	R_1	E_1	R_1		
1	CM	3.46	2.25	.80	.98	40.06	.0001
2	IA	3.15	2.11	.75	.98	29.88	.0001
3	BD	2.60	1.78	.67	.84	25.35	.0001
4	ATK	3.48	2.33	.94	1.06	29.58	.0001
5	RT	3.60	2.76	.86	1.12	15.10	.0002
6	UMS	2.48	1.21	1.25	.98	34.27	.0001
7	PFW	4.00	1.90	1.27	1.32	61.78	.0001
8	POS	1.33	2.90	1.05	1.66	25.27	.0001
9	REEP	4.06	2.72	1.64	1.99	11.89	.0008
10	REPF	4.45	2.29	1.33	1.92	35.31	.0001
11	RRPF	1.70	2.64	1.36	1.58	9.15	.0031

* A multivariate analysis of variance was carried out for all eleven variables prior to the univariate analysis. The multivariate F ratio for a test of equality of E and R across all eleven variables was calculated to be 16.59 with 11 and 107 dif. ($p < .0001$).

TABLE 4

COMPARISON OF EXPERIMENTAL (E_2) VERSUS REGULAR (R_2) GROUPS ON APQ VARIABLES

	Scale (Index)	Means		Standard Deviations		Univariate* F Ratio	Significance Level p <
		E_2	R_2	E_2	R_2		
1	CM	3.32	1.99	.64	.77	156.57	.0001
2	IA	2.87	1.92	.85	1.00	46.38	.0001
3	BD	1.94	1.64	.53	.80	8.28	.0045
4	ATK	2.98	2.19	:84	.99	32.94	.0001
5	RT	3.35	2.75	.71	1.12	18.04	.0001
6	UMS	1.65	1.13	.87	.91	15.20	.0002
7	PFW	4.10	2.42	1.12	1.38	78.51	.0001
8	POS	1.30	2.62	.98	1.59	42.72	.0001
9	REEP	3.65	3.27	1.86	1.60	2.17	.1424
10	REPR	3.92	3.30	1.68	1.33	7.52	.0067
11	RRPF	2.15	2.94	1.53	1.19	14.97	.0002

* A multivariate analysis of variance was carried out for all eleven variables prior to the univariate analysis. The multivariate F ratio for a test of equality of E and R across all eleven variables was calculated to be 34.75 with 11 and 170 d.f. ($p < .0001$).

Relationship between APQ Indices and Achievement:

Achievement test data was available only for the Fall 1972 regular sections (R_2). Experimental sections did not take traditional achievement tests and there was no good achievement test data for the R_1 sections.

There were two achievement tests given to the R_2 sections - a mid-term and a final. Each item on these multiple choice tests was keyed to a performance objective and the items had previously been item analyzed. The Kuder Richardson Formula 20 Reliabilities are 0.805 for the mid-term and 0.883 for the final.

It was hypothesized that high achievement is positively correlated with indices of involvement in field work, especially Commitment (CM), Instructional Activity (IA), Breadth - Depth of Involvement (BD), Application of Theoretic Knowledge (ATK), Routine Tasks (RT), Use of Methods Specialists (UMS), and Percent Time Preparing for Field Work (PFW). The correlations of the achievement tests with these selected APQ variables for the R_2 group are reported in Table 5. There was a significant negative correlation between high achievement on the mid-term and a high instructional activity score ($p < .01$). Similarly, high achievement on the final was significantly correlated in a negative direction with high instructional activity ($p < .05$). There were no other significant correlations between the achievement tests and the other selected APQ variables.

Relationship Between Field Experience Indices and Selected Personality Variables:

Scores on the Omnibus Personality Inventory (Heist, Yonge, McConnell and Webster, 1968) were available for some members of the 1972 Fall Samples E_2 and R_2 groups. Since the inventory is not administered to transfer students, and there are many students in these programs who are transfers, Omnibus Personality Inventory (OPI) data was missing for many students. Also, since the student identification numbers

needed to retrieve OPI information from the University records were incomplete for the E_1 and R_1 groups, no personality data was available for these samples.

It was thought that individual differences between students in their field experiences might be related to their personality characteristics as measured by certain OPI part scores. Therefore, the correlations reported are between the E_2 and R_2 samples combined on the APQ indices and selected OPI subscales.

The OPI subscales selected for study and their descriptions follow:

1) Thinking Introversion (TI) - high scorers prefer academic activitie involving the manipulation of a broad range of ideas, and their thinking tends to be less controlled by commonly held conceptions; 2) Theoretical Orientation (TO) - high scorers like to engage in theoretical problems and use the scientific method in problem solving; 3) Complexity (CO) - high scorers are flexible and tolerant of diversity and ambiguity; 4) Autonomy (AU) - high scorers tend to be independent themselves and respect differing viewpoints held by others; 5) Altruism (AM) - high scoring persons are concerned about the welfare of others and exhibit trust and ethical attitudes in their interpersonal relations; and 6) Practical Outlook (PO) - the person scoring high tends to value practical activities, material goods and concrete achievements.

Correlations between these selected OPI subscales and APQ indices are reported in Table 6. The APQ index, Commitment is significantly correlated ($p < .01$) with Theoretical Introversion and Theoretical Orientation. Instructional Activity is correlated with Complexity ($p < .01$) and Altruism ($p < .05$). The Application of Theoretical Knowledge is significantly correlated with Theoretical Introversion and Altruism ($p < .05$). The Use of Methods Specialists was found to be negatively correlated with Autonomy ($p < .05$). Both Commitment ($p < .05$) and Instructional

TABLE 5

CORRELATION MATRIX OF ACHIEVEMENT TEST WITH SELECTED APQ VARIABLES FOR R_2 GROUPS

Tests	APQ Indices						
	Cm	IA	BD	ATK	RT	UMS	PFW
Mid-term	.10	-.28**	-.12	.01	-.03	-.18	-.02
Final	-.14	-.23*	-.10	.05	.00	-.17	-.16

** significant at the .01 level
* significant at the .05 level

TABLE 6

CORRELATION MATRIX OF SELECTED PERSONALITY VARIABLES WITH SELECTED APQ VARIABLES FOR E_2 AND R_2 GROUPS MIXED

OPI Scales	APQ Indices						
	CM	IA	BD	ATK	RT	UMS	PFW
TI	.26**	.16	-.04	.20*	.09	.14	.12
TO	.27**	.13	-.05	.11	.08	.12	.08
CO	.19	.28**	-.04	.10	.01	-.07	.17
AU	.15	.09	-.08	-.01	.00	-.23*	.09
AM	.20	.20*	-.06	.21*	.14	-.03	.07
PO	-.26*	-.27	.00	-.17	-.08	.07	-.07

** significant at the .01 level
* significant at the .05 level

Activity ($p < .01$) were negatively correlated with Practical Outlook. The relationships between the APQ indices and the two achievement measures are shown in Table 5. The relationships between the APQ variables and the six OPI subscales are shown in Table 6.

Conclusions:

It should be noted that even the correlations which are significant between the OPI subscales and the APQ indices and the achievement tests and the APQ variables account for only a very small portion of the total variance. None of the correlations are impressive and even the significant ones should be interpreted with caution.

The significant negative correlations between high achievement on the mid-term and final exams and high instructional activity scores were contrary to the hypothesis of a positive relationship between these variables. This may indicate that students who became very involved in instructional activity in the field experience were not as concerned about University class achievement, while those who were high achievers in their University classes tended to be less interested in the field experience instructional activities. The negative correlation between students scoring high on the OPI Practical Outlook scale and those scoring high on Commitment and Instructional Activity on the APQ also appears to substantiate the idea that those who are interested in immediate concrete achievements would be less interested in the immediate rewards of receiving a good grade in their University class.

The results of this study strongly indicated a need for an independent assessment of the students' activities. Self report data seems to be insufficient and a teacher's report on an independent scale appears necessary. Since teachers often tend to rate student aides very favorable reports on such scales, as the aides provide them much needed assistance, perhaps an adjective check list type of report

would be desirable. The development of an independent criterion measure, especially to measure the degree to which theoretic knowledge is applied, would also be desirable.

REFERENCE

Heist, P., Yonge, G., McConnell, T.R., Webster, H. Omnibus Personality Inventory: Manual. The Psychological Corporation, New York, 1968.